

Date: Fri, 12 Nov 93 04:30:49 PST  
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>  
Errors-To: Ham-Space-Errors@UCSD.Edu  
Reply-To: Ham-Space@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Space Digest V93 #82  
To: Ham-Space

Ham-Space Digest                      Fri, 12 Nov 93                      Volume 93 : Issue    82

Today's Topics:

    Fixed antennas for satellite work. (2 msgs)  
    Help on micro satellite project wanted!  
    Software recomm. for FT-736R operation  
    SPACE TRIVIA LIST - returns!

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>  
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 11 Nov 1993 12:37:37 GMT  
From: library.ucla.edu!agate!spool.mu.edu!sol.ctr.columbia.edu!news.columbia.edu!  
namaste.cc.columbia.edu!mac20@network.ucsd.edu  
Subject: Fixed antennas for satellite work.  
To: ham-space@ucsd.edu

Speaking of computer-controlled sat tracking;  
is there a standard for the interface?  
and what' the best way to go about it?  
How's the handbook project?  
I'm thinking IBM-PC mainly but RS-232 would of course be more generally  
useful I suppose.

(been meaning to attack this for years, maybe someday i'll actually get off  
my can....)

Mike Cecere  
KF2NV  
Columbia Univeristy

Applied Physics Department

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Date: 11 Nov 93 08:46:06 GMT  
From: ogicse!emory!kd4nc!ke4zv!gary@network.ucsd.edu  
Subject: Fixed antennas for satellite work.  
To: ham-space@ucsd.edu

In article <9311101427.AA02810@necotech.com> Harvey=P.=Sattin@necotech.COM writes:  
>What, if any, fixed antennas would work best for satellite work?  
>I'm interested in working some of the 2-meter/440 stuff.

Just about any dual band vertical will work. The copper cactus dual band J-pole in the Handbook does OK. These won't do for Oscar 10 or 13, but they're fine for the microsats. If you want to get fancier, a Lindenblad would be better. It's an omni-directional circular polarized antenna. The Satellite Experimenter's Handbook has a design.

Of course steerable beams with automatic computer tracking are best, but if you can't do that, an omni will do for the low orbit birds.

Gary

--  
Gary Coffman KE4ZV                   |"If 10% is good enough | gatech!wa4mei!ke4zv!gary  
Destructive Testing Systems | for Jesus, it's good | uunet!rsiatl!ke4zv!gary  
534 Shannon Way               | enough for Uncle Sam."| emory!kd4nc!ke4zv!gary  
Lawrenceville, GA 30244       | -Ray Stevens               |

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Date: 11 Nov 1993 11:32:52 GMT  
From: Germany.EU.net!netmbx.de!zrz.TU-Berlin.DE!mailgzrz.TU-Berlin.DE!lise!  
svm@uunet.uu.net  
Subject: Help on micro satellite project wanted!  
To: ham-space@ucsd.edu

HELP WANTED ON SATELLITE DESIGN PROJECT  
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We are a group of five students at the Technical University of Berlin, Department of Aeronautics and Astronautics. This winter term we have to conduct a study for our satellite design class in which we have to examine if it is feasible and affordable to construct a micro satellite that is able to survey geostationary satellites for possible damage.

Since our teaching staff provides us only very few facts, we would like to ask for your assistance. Please mail us all your suggestions for possible technical solutions and all information you can provide on rockets and satellite subsystems.

First, we have to develop the mission that our satellite has to fulfill. What should be the abilities of a satellite that can fulfill the mission further described below?

Second, to design a satellite that is able to fulfill the specified mission we need information of all kinds: about the launcher and the satellite subsystems.

Please mail your replies to:

svm@marie.physik.tu-berlin.de                      or                      nasacafe@w250zrz.zrz.tu-berlin.de

Project:

- to design a micro satellite that is able to survey geostationary satellites for possible damages or other problems (e.g. blocked solar arrays)
- Mass : below 100 kilogramms
- Max. size: a cube of one meter of length, depending on the space available on the instrument platform of the GOMS satellite
- Launch: as a secondary payload with a Russian GOMS meteorology satellite, attached to the instrument platform, released in orbit, launched with a Proton rocket
- Task: to provide pictures of geostationary satellites, resolution should be large enough to see small parts (e.g. a bolt), closest distance to the target: 50 - 100 meters
- Propulsion: cold gas, no north-south station keeping
- Ground segment: 10 meter parabolic antenna near Berlin, Germany
- Communications: Telemetry, Tracking and Command in the 2 meter band (ca. 140 - 150 Megahertz), picture transmission in the L-Band

Needed information:

- Proton rocket: payload, launch stresses (acceleration, vibrations, costs)
- GOMS satellite : mass, available room on instrument platform
- all available information on CCD chips, lenses (especially storage and protection during launch)
- cold gas systems
- image processing, data storage, data transmission
- possible materials for light weight construction

- literature?

For all of you, who are interested in micro satellite technology:  
TUBSAT-B, the second Technical University of Berlin SATellite is scheduled to be launched on November 27 1993 as a secondary payload with a Russian Meteor satellite. TUBSAT-A, launched in 1991, is still operative, but the capacity of the Ni-Cd batteries has dropped to one half of the original value.

Thanks for your help.

Bye.

Sven, Carsten, Uwe, Ralf and Rene.

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*****
* Sven Muencheberg                               svm@marie.physik.tu-berlin.de *
* Technical University Berlin                     Division of Astronautics      *
* Berlin, Germany                                *
* ----- *
* Groucho : You know I think you are the most beautiful woman in the whole *
*          world ? *
* Beatrice : Do you really ? *
* Groucho : No. But I don't mind lying if it will get me somewheres. *
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Date: Tue, 9 Nov 1993 20:06:23 GMT  
From: ftpbox!mothost!schbbs!news@uunet.uu.net  
Subject: Software recomm. for FT-736R operation  
To: ham-space@ucsd.edu

I am looking for recommendations by name, with pros and cons, for various software packages that any of you may have used with a FT-736R for satellite work.

Please respond via E-Mail at the above address.

Thanks-

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Date: Wed, 10 Nov 1993 13:56:52 GMT  
From: munnari.oz.au!metro!seagoon.newcastle.edu.au!scorch!lukpla@uunet.uu.net  
Subject: SPACE TRIVIA LIST - returns!  
To: ham-space@ucsd.edu

The SPACE TRIVIA LIST is now about to continue, after a few months of silence due to local commitments. If anyone has any further items of trivia that they would like to add, PLEASE SEND IT because we use all the Trivia that we get.

There are some 270 items at the moment, and the next source of items will be the Guinness Book of Records, which should yield quite a number of bits of Trivia since there are two sections devoted to facts about SPACE in general.

If anyone can make any recommendations about books with items of trivia, then please forward details.

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=====
Luke Plaizier - Entomological Toxophilist Extraordinaire
  Editor - Newcastle Space Frontier Society UPDATE
    Moderator - SPACE TRIVIA LIST
      lukpla@scorch.apana.org.au
=====
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Date: 11 Nov 93 04:14:55 GMT
From: ogicse!emory!kd4nc!ke4zv!gary@network.ucsd.edu
To: ham-space@ucsd.edu
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References <1993Nov8.063844.11523@muug.mb.ca>,  
<1993Nov8.173200.11912@ke4zv.atl.ga.us>, <1993Nov10.192832.18480@muug.mb.ca>  
Reply-To : gary@ke4zv.UUCP (Gary Coffman)  
Subject : Re: Sat access to Internet ?

In article <1993Nov10.192832.18480@muug.mb.ca> rgallen@muug.mb.ca (Rennie Allen) writes:

>In <1993Nov8.173200.11912@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>

>>In article <1993Nov8.063844.11523@muug.mb.ca> rgallen@muug.mb.ca (Rennie Allen) writes:

>>>This may be a real stupid question, and I'm not sure if this would be the  
>>>right place to ask this (if not a flame and redirect would be appreciated),  
>>>but I was wondering if it is possible for a private individual, to obtain  
>>>a bi-directional (uplink/downlink - earthstation - is this the terminology ?)  
>>>to the Internet via sattelite ?

>>>

>>>Obviously I know nothing of the technology (if there is such a technology) so  
>>>any pointers would be greatly appreciated.

>  
>>The answer is yes, but. :-)  
>  
>>What you're looking for is SCPC Vsat access. You can get it, but it's  
>>not cheap. It's something like \$15,000 plus per minute charges. There  
>>was at one time a Usenet Netnews distribution via a subcarrier on one  
>>of the TVsat channels, WGN I think. I don't know if it's still active.  
>>To get it you needed a special decoder. It was one way only.  
>  
>Hmmm \$15K/minute sounds a little pricey :-), what kind of bandwidth are we  
>talking ? Isn't there any fractional bandwidth available for less ?  
>  
>Does this mean when I ftp to some site in Japan (I know I'm using satellite  
>cuz the traceroute shows a 2000 ms delay between west coast US and JP), that  
>it's costing someone \$15K/minute for the 1.6KB/sec bandwidth that I'm using ?

No, there's a \$15,000 \*one time\* charge, then there are per minute charges. That \$15,000 is approximate, you can get better deals.

Gary

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Gary Coffman KE4ZV                   |"If 10% is good enough | gatech!wa4mei!ke4zv!gary  
Destructive Testing Systems | for Jesus, it's good   | uunet!rsiatl!ke4zv!gary  
534 Shannon Way               | enough for Uncle Sam."| emory!kd4nc!ke4zv!gary  
Lawrenceville, GA 30244       | -Ray Stevens           |

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End of Ham-Space Digest V93 #82

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